RESPONSE TO PUBLIC COMMENTS

From August 1, 2007 to August 30, 2007 the United States Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) solicited Public Comments on a draft NPDES permit. The draft permit was developed pursuant to a reapplication from the Town of Salisbury for reissuance of the Town's NPDES permit to discharge wastewater to a tidal creek that drains to the Merrimack River. After a review of the comments received, EPA has made a final decision to issue the permit authorizing the discharge. The following response to comment**s** describes the changes and briefly describes and responds to the comments on the draft permit. A copy of the final permit may be obtained by writing or calling Betsy Davis, United States Environmental Protection Agency, 1 Congress Street, Suite 1100 (CMP), Boston, Massachusetts 02114-2023; Telephone (617) 918-1576.

Comments submitted by Neil Harrington, Town Manager for the Town of Salisbury, MA on August 27, 2007.

Comment #1: The draft permit Fact Sheet accurately identifies the receiving water into which the wastewater treatment plant (WWTP) effluent is discharged. Further, the Effluent Limits section describes the procedure used in 2001 to reduce the dilution factor to one, or zero dilution. The impact of an assumed zero dilution discharge is reflected in the permit. The WWTP has instrumentation and controls that can be utilized to prevent discharge to the tidal creek during times of slack low tide. This would likely have a drastic effect on the amount of dilution provided in the creek, potentially allowing for the relaxing of certain effluent limits.

Accordingly, we formally request that EPA consider the adjustment of the WWTP dilution factor upwards with discharge based on tides. Many permit limitations would likely change; therefore, we would request a new draft permit be issued and the comment period be reopened.

Since this issue could impact all other comments, we raise the following comments in the context of the existing draft, and not in a future modified form arising from any dilution factor changes.

Response: We acknowledge there may an environmental benefit if the discharge were eliminated during slack low tide. However, the Town's proposal does not have sufficient detail for us to establish permit conditions at this time. EPA and MassDEP would consider a permit modification based on such a proposal if sufficient detail were provided. Such a proposal would have to include modeling of the discharge (using a model such as CORMIX or PLUMES) sufficient to establish a dilution factor and mixing zone for the discharge. In order to complete such a model the discharge flow rates would have to be established (i.e., the discharge rates would increase as the duration of the discharge decreased), the outfall configuration would have to be documented, and the hydrologic conditions in the receiving water (e.g., minimum flow rate and velocity) would have to be established.

The Town would also have to provide an engineering analysis showing that the treatment plant is equipped with control systems to reliably control the discharge. In order to get sufficient mixing it may also be necessary to upgrade the discharge structure.

The effluent limits for copper and chronic whole effluent toxicity (C-NOEC) are based on available dilution in the receiving water. If the detailed proposal demonstrated that increased dilution could be provided, EPA and MassDEP would consider relaxing these effluent limits if they are consistent with water quality standards and the State's anti-degradation policy.

Comment #2: The replacement of seasonal BOD_5 monitoring and reporting with $CBOD_5$ is welcomed, although we request that $CBOD_5$ pollutant take the place of BOD_5 year-round. The DMR also would be supplemented with data noting the frequency and concentration of nitrification inhibitor usage at the WWTP.

Response: Page 2 of the final permit replaces BOD_5 with $CBOD_5$ as a year-round monitoring and reporting requirement.

Comment #3: The previous permit included language stating the pH range shall be between 6.5 and 8.5, unless caused by naturally occurring events. The draft permit no longer includes the exception to account for naturally occurring events. We request that this language be inserted into the new permit to account for naturally occurring events.

Response: The final permit includes language from the Massachusetts Water Quality Standards for pH levels in class SA waters.

For class SA waters, the Massachusetts Water Quality Standards specify, "The pH shall be in the range of 6.5 through 8.5 standard units and not more than 0.2 standard units outside of the natural background range. There shall be no change from natural background conditions that would impair any use assigned to this Class."

Comment #4: Presently, DO is reported based on grab samples taken from the effluent side of the UV units. A review of recent DMR's indicates that the DO is frequently between 4 and 5 mg/l at this point. The reaeration chamber located between the UV units and outfall pipe provides an additional means of entraining oxygen into the effluent prior to discharge.

The draft permit includes a new minimum DO concentration of 6 mg/l. Based on our records, it is likely that the effluent already meets this requirement. However, the new limits would require the WWTP operator to access the reaeration chamber for the daily grab sample. Such an activity is considered hazardous because of the isolated location of the reaeration chamber. And a vertical drop of greater than 20 feet.

As an alternative, we propose performing a 5-day sampling event at the post-UV and post-reaeration locations. The results would be used to correlate DO levels to one another, with the minimum permit limit based on reasonable levels expected at the post-UV location.

If EPA is amenable to this arrangement, we are prepared to perform the study and submit results and a follow-up permit limit request within 30 calendar days.

Response: The new DO limit in the draft permit, 6.0 mg/l, is based on State Water Quality Standards for class SA waters. This limit remains in the final permit. Data from a 5-day sampling event comparing DO levels in the effluent after UV and reaeration may show that the effluent meets the DO State standard for class SA waters. However, a NPDES permit is issued for five years and data results from a 5-day sampling event does not ensure that DO levels will consistently be met over an extended period of time.

We agree that access to the reaeration chamber to collect a daily DO sample should be restricted whenever there is a safety concern. We recommend the Town seek out technical assistance to devise an alternative method to sample for DO. It may be possible for a DO meter to be hooked into the facility's SCADA system.

Comment #5: The reasoning behind the addition of the enterococci sampling and reporting is unclear, and represents an additional operating expense. We request the final permit exclude any enterococci monitoring requirements.

Response: On November 16, 2004, EPA promulgated enterococci criteria for Massachusetts marine waters. The State Water Quality Standards were modified in December 2006 and now include criteria for enterococci for marine waters. The permit limits are based on the new bacteria criteria for class SA waters in 314 CMR 4.05(4)(a)(4).

The criteria for non bathing beach waters require that no single enterococci sample exceed 104 colonies per 100 ml and the geometric mean of all samples taken within the most recent six months typically based on a minimum of five samples shall not exceed 35 enterococci colonies per 100 ml. The bacteria limits in the final permit will remain the same as in the draft. As noted in Footnote one of the final permit, this is a State Certification requirement.

Comment #6: The previous permit included reporting of effluent copper concentrations. The results of this monitoring indicate that the draft permit limits cannot be met at the WWTP due to the average 30 ug/l copper concentration in the Salisbury potable water supply. Given these factors, we request that copper continue to be monitored and reported without an actual limit.

Response: EPA is required to establish permit limits that satisfy the technology and water quality requirements of the Federal Clean Water Act. As part of the permit renewal process, EPA and MassDEP reviewed the copper data submitted on recent discharge monitoring reports and in the chemical analysis conducted as part of the toxicity test requirements. As explained in the fact sheet, there is a reasonable potential for the concentration of copper in the effluent to exceed water quality criteria and permit limits are warranted.

Part I. E.1 in the final permit establishes a compliance schedule for the permittee to meet these limits.

Comment #7: The draft permit includes a new series of monitoring and reporting requirements for the nitrogen series, specifically Total Kjeldahl Nitrogen, Total Nitrate-Nitrogen, and Total Nitrite-Nitrogen. The addition of these pollutants raises a concern that EPA will apply effluent limits to these pollutants in future permit cycles.

A review of our recent DMRs indicates the WWTP's difficulty in meeting the existing seasonal ammonia-nitrogen effluent limit of 5 mg/l. In order to meet this limit, costly process modifications may need to be implemented during the upcoming permit cycle to improve nitrification efficiencies, thereby increasing effluent concentrations of total nitrate nitrogen and total nitrite nitrogen. If future permit cycles were to include limits on these pollutants, a second comprehensive WWTP upgrade may be required.

Such incremental changes to the permit reduce the Town's ability to cost-effectively improve WWTP operations. Therefore, we request that any additional nitrogen series monitoring be removed from the permit.

Response: Because nitrogen is typically the limiting nutrient in estuarine and marine water, NPDES permits for discharges to these waters typically include monitoring and reporting requirements for nitrogen compounds. The receiving waters downstream of this treatment plant are not currently identified as having an impairment due to nitrogen, so no effluent limits have been established at this time. If new water quality information shows that the discharge is causing or contributing to nitrogen related impairments, future permits may include a limit on total nitrogen.

As stated in the previous response, EPA is required to establish permit limits that satisfy the technology and water quality requirements of the Federal Clean Water Act, and may not establish effluent limitations based on cost considerations.

During the planning of any upgrades to the treatment plant necessary to achieve the ammonia nitrogen limit, the Town should consider whether the selected technology is consistent with technologies that may have to be added to denitrify. If a nitrogen limit is imposed in a future permit, EPA will work with the community to establish a reasonable schedule of compliance.

Comment #8 Several characteristics have daily monitoring requirements. The WWTP is staffed weekdays only with nights and weekend staffed during emergencies only. As such, we request that a daily monitoring requirement be defined as 5 days per week.

Response: As in the draft, the final permit requires daily monitoring for dissolved oxygen and pH. Daily monitoring has been defined in footnote five of the final permit as monitoring during regular operating hours at the WWTP. Regular operating working hours are Monday through Friday, 7:00 am to 3:00 pm.

Comments submitted by Mary Colligan, Assistant Regional Administrator for Protected Resources at the United States Department of Commerce on August 9, 2007.

Comment #9: A population of the federally endangered shortnose sturgeon occurs in the Merrimack River ranging from the Essex Dam in Lawrence to the mouth of the river. If the discharge from the Salisbury facility is likely to affect water quality in the mainstem of the Merrimack River below the Essex Dam, EPA should initiate consultation pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended, regarding the effects of this discharge on shortnose sturgeon.

Response: The Agencies do not believe the discharge from the Salisbury Wastewater Treatment Facility will impact water quality in the main stem of the Merrimack River or impact the critical habitat for the shortnose sturgeon (*Acipenser brevirostrum*). A letter dated September 20, 2007 was sent from EPA and explains our analysis in more detail. A copy of the letter is attached and is part of the administrative permit record. We will continue to discuss this issue with the National Marine Fisheries Service, and if it is determined that additional permit conditions are necessary, we will reopen and modify the permit to include such conditions.